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Title:

An investigation into GPs' perceptions of children's mental health problems

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Abbreviated title:

GPs' recognition of children's mental health problems

Abstract:

Background: Mental health disorders in children are common. GPs have a significant role in the detection of these disorders, yet there is lack of evidence to assess this ability. This study aimed to explore GPs' recognition of children's mental health problems, examining GPs' ability to identify both a common emotional and behavioural disorder.

Method: Between November 2014 and March 2015, an online survey based questionnaire measure was used, composed of a series of 6 clinical vignettes designed to assess GPs' mental health literacy with respect to children of primary school age. This included recognition accuracy, rating of problem severity, and degree of concern about hypothetical cases, described in the vignettes.

Results: Of the 97 participants, all identified the clinical level separation anxiety disorder and 97.9% identified the clinical level oppositional defiant disorder. Nonparametric analyses identified a significant difference ($Z=-5.44$, $p<.0001$, $r=0.55$) in the GPs' concern for the child with clinical oppositional defiant disorder versus the concern for the child with clinical

separation anxiety disorder. Participants were significantly more concerned about a boy presenting with clinical separation anxiety ($Z=-7.18$, $p<0.001$, $r=0.72$) than a girl. Also, participants were significantly more concerned about a boy presenting with clinical level oppositional defiance ($Z=-7.79$, $p<0.001$, $r=0.79$).

Conclusion: This study shows the majority of GPs can identify a primary school child with clinical level symptoms of either a common emotional or behavioural disorder described in a written vignette. However, GPs were more concerned when the child was male or displaying symptoms of a behavioural disorder.

Key Practitioner Message:

- GPs play a vital role in the identification of childhood mental health problems.
- There is limited and contradictory evidence about GPs ability to recognise and respond to child mental health problems.
- This study found that GPs are able to recognise clinical level symptoms of a common emotional disorder (separation anxiety disorder) and a common behavioural disorder (oppositional defiant disorder) from a written vignette.
- GPs were more concerned about behavioural (oppositional defiant symptoms) than emotional (separation anxiety symptoms) presentations, particularly in boys.

Introduction

There is significant unmet need for mental health treatment in childhood. It is estimated that 10% of children in the general population who are aged 5 to 15 have a mental health problem (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000). The prevalence of mental health problems in children who attend primary care appointments is higher at an estimated 25% (Kramer & Garralda, 2000). Yet, only around one third of children with psychological disorders are believed to receive specialist services (Sayal, 2006).

Children are generally unable to seek help for themselves and are dependent on adults recognising their difficulties and seeking help on their behalf (Sayal, 2006). The first stage of help-seeking is therefore most likely to be problem recognition by parents, carers, teachers or other adults, who then seek help via primary care (Rawlinson & Williams, 2000). The help-seeking process can be complex, involving multiple agencies and varying in both the intensity of the help sought and duration of seeking help (Shanley, Reid, & Evans, 2008). The help seeking pathway as described by Srebnik, Cauce, and Baydar (1996) postulates links between the illness, predisposing factors, facilitators or barriers to seeking help, recognition of a problem, decision to seek help and service utilisation patterns. In the UK, help tends to be sought via General Practitioners (GPs), who are the first point of contact for consultation about both physical and mental health problems (Hinrichs, Owens, Dunn, & Goodyer, 2012). The gateway provider model assumes GPs are the non-specialist formal provider, who will facilitate access to more specialist services when they recognise the existence of a mental health problem (Stiffman, Pescosolido, & Cabassa, 2004). The GP's knowledge of specialist services and their accurate recognition and assessment of a child's symptoms are essential to this pathway operating successfully.

Thus, GPs play significant role in identifying children with mental health difficulties and the importance of this role is recognised within the GP regulatory and training structures. The Royal College of General Practitioners (RCGP) curriculum (Chew-Graham, 2010 revised 2014) states that GPs should 'recognise early indicators of difficulty in the psychological well-being of children and young', without any mention of compulsory concomitant training. Furthermore, in March, 2014, the RCGP released an eLearning module on child and adolescent mental health (Noble, 2014).

It is important to know how good GPs are at recognising the signs of childhood mental health problems, given their key role within the care pathway and the sizable unmet need; despite this, the existing evidence, particularly within the UK population is limited. It appears that less than half of children with psychiatric disorders are recognised in primary care, and among those recognised, only half are referred on to specialist services (Sayal, 2006). Even when GPs do refer to specialist mental health services, their referrals are over three times more likely to be rejected than those from any other referral source (Hinrichs et al., 2012). A UK study explored GP recognition of child mental health disorders in children aged 5 to 11, compared to a psychometric questionnaire completed by parents Sayal and Taylor (2004). GPs were asked, following their consultation, whether the child had a problem, and what the nature of the problem was. GPs perceived difficulties in 11% of the children, with parents perceiving difficulties in 22% of the children. This study was limited by sample attrition, a time delay between parental report and the GP consultation, and the assumption that parental report measure is a reliable index of a child's mental health problems, which may be questionable (Upton, Lawford, & Eiser, 2008). A Dutch study found that concordance between GPs' psychological diagnoses and parent, teacher, and adolescent reports of psychological problems was limited in a sample of 2449 young people aged 4 to 17 (Zwaanswijk, Verhaak, van der

Ende, Bensing, & Verhulst, 2005). In this study, 73.9% of the primary school age children had contact with their GP in the year studied, and of those, only 7.1% received a psychological diagnosis (most likely to be developmental delay, enuresis or overactive/hyperkinetic). One out of every seven children considered by parents or teachers to have significant psychological difficulties received a diagnosis from the GP. It is not clear what factors affect a GP's recognition of childhood mental health difficulties, and there is some contradictory evidence about whether a child's age and gender play a part (Dowdney et al., 1999; Wolpert & Fredman, 1996; Zwaanswijk, van der Ende, Verhaak, Bensing, & Verhulst, 2005).

More is known about GPs' recognition of mental health problems in adolescents and young adults. Researchers studied GPs' detection of psychological problems in adolescents, age 13 to 16, who attended GP practices (Martinez, Reynolds, & Howe, 2006). In this prospective study, 98 young people completed a self-report questionnaire, their parents completed a questionnaire, and GPs completed a consultation assessment form. Over 30% of those who presented at GP practices had clinically significant symptomatology; GPs identified the difficulties in just over 60% of cases, but only made a management plan or follow-up plan in about a third of cases identified as having a mental health problem. A further study found that GPs identified a mental health problem in 23% of those young people whose symptoms were within the clinical range on a youth self-report measure (Zwaanswijk, Verhaak, et al., 2005).

Thus, the current study aimed to further explore GPs' recognition of children's mental health problems, using standardised vignettes, enabling an understanding of GPs' ability to identify both a common emotional disorder and a common behavioural disorder of childhood, stratified by severity, and of varying gender.

Method

Measures

This quantitative, cross-sectional exploratory study used an online survey, composed of a series of written vignettes designed to assess GPs' mental health literacy with respect to children of primary school age. Each vignette was followed by a series of questions designed to assess the constructs of problem recognition, rating of problem severity, endorsement of the child's need for professional help and rating of the respondent's degree of concern for the child described.

The vignettes, which were validated and previously applied to primary school teachers (Loades & Mastroyannopoulou, 2010), described children with symptoms of the most common behavioural disorder in this age group, oppositional defiant disorder (ODD) and children with symptoms of separation anxiety disorder (SAD), the most common emotional disorder in this age group (see appendix 1 for example vignette). Prior to their use in a large sample of teachers, the vignettes were piloted on a sample of 12 clinical psychologists in training, who were assumed to have a high degree of mental health literacy. In the pilot sample, problem recognition accuracy for the clinical level symptomatology of SAD and ODD was 100%, and need for professional help endorsed in 100% of instances. For the problem-free presentations, the absence of a problem was recognised by 100% of respondents for the SAD vignette, and by 66.7% of respondents for the ODD vignette. The issue of discriminant validity of the symptom-free ODD vignette, recognised as not having a problem by only two-thirds of the pilot sample was noted. However, degree of concern was rated as low, even in those who endorsed the presence of a problem. Furthermore, Day (2002), whose study also included symptom-free children described in vignettes, found that, when administered to a sample of experienced mental health clinicians, 28.8% thought that the symptom-free child described had a problem. Therefore, the symptom-free ODD vignette was

retained despite its limitations.

The questions which followed each vignette assessed problem recognition (dichotomous scale requiring a yes/no answer to the question ‘Do you think that X has a problem?’), a rating of problem severity (on a 3 point scale ranging from mild to severe, with a not-applicable option if the respondent does not believe the child has a problem), the child’s need for professional help (scored on dichotomous scale requiring a yes/no answer) and the degree of concern (on a 5 point scale, ranging from 0 = not concerned to 4 = extremely concerned) about hypothetical cases, described in the vignettes. Participants were also asked to name the problem within a free text box.

Two versions of the questionnaire were utilised to enable a comparison of responses whilst varying the child’s gender. In version 1, the children who displayed the three variants of ODD (that is, ODD of clinical severity, sub-clinical levels of ODD symptomatology, and a child without clinical symptoms) were boys, and the children who displayed the three variants of SAD (that is, SAD of clinical severity, sub-clinical levels of SAD symptomatology, and a child without clinical symptoms) were girls. In version 2, the children who displayed the three variants of ODD were girls, and the children who displayed the three variants of SAD were boys.

Thus, each participant was presented with six vignettes in total; three vignettes about a boy and three vignettes about a girl. Approximately half of the participants completed version 1 and the other half completed version 2 (see table 1).

[insert table 1 about here]

Participants

Any practising GP was eligible to participate in the study. Ninety seven GPs participated in the study, with a mean age of 47 (S.D. 8.633, range 31 - 64). Thirty two participants were male, 64 were female, and 1 participant did not state their gender. The majority of the participants were White British (84%) with remaining individuals from a range of ethnic origins. Forty four participants (45.4%) had more than 20 years' experience as a GP with 30 participants (30.9%) having less than 11 years' experience and 23 participants (23.7%) had between 11 and 20 years' experience. The majority of participants had no specialist child and adolescent mental health training (90.7%) and most participants rated themselves as either moderately experienced with working with children with mental health problems (43.3%) or as having a little experience (28.9%).

Procedure

Participants were recruited between November 2014 and March 2015 by:

- 1) An email distributed via the educational departments of four GP Deaneries in the South West England to their recipient list of qualified GPs, providing them with the information sheet and asking them to participate in the study via an online survey, hosted by Bristol Online Surveys (BOS). The information sheet informed potential participants that the study data would be analysed anonymously, and that participation in the study was optional. Furthermore, they were informed that they could withdraw from the study at any time during completion. This ensured informed consent.
- 2) To improve representativeness, a random sample of GP surgeries (n=4) in the South West region were contacted directly, providing them with the information sheet and asking them to participate via the online BOS.

As the survey was completed anonymously, it is not known how many GPs were recruited via each method of sampling. Due to the snowballing nature of recruitment, it is not possible to determine how many GPs were invited to participate in total, but it is estimated that the email invitation was sent to 2500 potential participants.

Ethical considerations

Ethical permission was sought and granted by the Department of Psychology ethics committee at the University of Bath.

Data analysis strategy

The Statistical Package for the Social Sciences (SPSS) version 22, manufactured by IBM was used to analyse the data. Wilcoxon Matched-pairs Signed Rank test (Wilcoxon tests) were employed to establish whether GPs can distinguish between different levels of severity of the same disorder. Further Wilcoxon tests explored differences in a GP's degree of concern for a child with clinical symptoms of a behavioural disorder versus an emotional disorder, and of varying gender. A p value of <0.05 was assumed to be statistically significant. An effect size of 0.1 was assumed to be a small effect, 0.3 a medium effect and 0.5 a large effect (Gray & Kinnear, 2012). Missing values were excluded on a test- by-test basis.

Results:

Question 1: Can GPs recognise a child presenting with clinical symptoms of a common emotional disorder of childhood, separation anxiety disorder (SAD)?

All participants identified the child described in the vignette who presented with clinical level symptoms of SAD as having a problem (see table 2). GPs rated the symptom severity of a child presenting with clinical symptoms of SAD ($M=2.03$, $SD=.51$) as significantly more

severe ($z=-7.20$, $p<0.001$) than a child with subclinical SAD ($M=1.30$, $SD=.66$). The effect size was large ($r=.73$). Furthermore, GPs rated the symptom severity of subclinical SAD versus nonclinical control ($M=0.02$, $SD=.14$) as significantly more severe ($z=-8.44$, $p<0.001$). The effect size was large ($r=0.86$). Of the 77 participants who named the problem that the child with clinical level SAD had, 72 (94%) named the problem as either 'anxiety' or 'separation anxiety'.

Question 2: Can GPs recognise a child presenting with clinical symptoms of a common behavioural disorder of childhood, Oppositional Defiant Disorder (ODD)?

The majority of participants (97.9%) identified the child described in the vignette who presented with clinical level symptoms of ODD as having a problem, with 2 participants saying that the child did not have a problem (see table 2). GPs rated the symptom severity of a child presenting with clinical symptoms of ODD ($M=2.52$, $SD=.68$) as significantly more severe ($z=-7.51$, $p<0.001$) than a child with subclinical ODD ($M=1.54$, $SD=.72$). The effect size was large ($r=0.76$). Furthermore, GPs rated the symptom severity of subclinical ODD versus nonclinical control ($M=0.62$, $SD=.85$) as significantly more severe ($z=-6.68$, $p<0.001$). The effect size was large ($r=0.68$). Of the 68 participants who named the problem the child with clinical level ODD had, 35 (51%) named the problem as 'behavioural disorder', 'behavioural problem', 'oppositional defiant disorder', or 'conduct disorder'.

Question 3: Are GPs more concerned about a child presenting with symptoms of a common emotional disorder (SAD) compared to a symptom of a common behavioural disorder (ODD)?

A Wilcoxon test found a significant difference ($Z=-5.44$, $p<0.001$) in the level of concern for the child with clinical ODD ($M=3.21$, $SD=.91$) versus the concern for the child with clinical

SAD ($M=2.47$, $SD=.68$). Thus, GPs were significantly more concerned about a hypothetical child, described in a written vignette, with clinical level symptoms of ODD as compared to a vignette describing SAD. The effect size was large ($r=0.55$).

Question 4: Are GPs more likely to recommend professional help for a clinical level symptoms of a common emotional disorder (SAD) compared with clinical level symptoms of a common behavioural disorder (ODD)?

Ninety five participants said that the child presenting with clinical level SAD needed professional help, whilst ninety two participants said that the child presenting with clinical level ODD needed professional help (see table 2). This difference was not significant ($Z=-1.34$, $p=0.180$). Fifty eight participants said that the child presenting with subclinical level SAD needed professional help, whilst sixty five participants said that the child presenting with subclinical level ODD needed professional help. This difference was not significant ($Z=-1.46$, $p=0.144$).

Question 5: Are GPs equally concerned about a boy presenting with clinical level symptoms of a common emotional disorder (SAD) and a common behavioural disorder (ODD) as compared to a girl?

Participants were significantly more concerned about a boy presenting with clinical level SAD ($Z=-7.18$, $p<0.001$) than a girl (see table 2). Also, participants were significantly more concerned about a boy presenting with clinical level ODD ($Z=-7.79$, $p<0.001$). Effect sizes were large ($r=0.72$, 0.79 respectively).

[insert table 2 about here]

Discussion

This study found that most GPs correctly identified hypothetical children, described in written vignettes, displaying clinical level symptoms of a common emotional disorder or a common behavioural disorder of childhood as having a problem. Given their central role in problem recognition and help seeking this is a reassuring finding. This rate of accurate problem recognition is higher than in previous studies (Martinez et al., 2006; Sayal & Taylor, 2004; Zwaanswijk, Verhaak, et al., 2005); it may be that recent media focus on child mental health has increased GPs' awareness of these disorders or alternatively, the methodology of this study may have primed GPs to expect a mental health issue, or that the differences between the vignettes were too obvious. That said, when exploring severity indicators, GPs were able to distinguish between clinical, subclinical and nonclinical vignettes of SAD and ODD. This implies that GPs were not simply anticipating a problem, but recognising when a problem exists and the threshold of severity, and also recognising when a problem does not exist. Despite this ability to recognise that a problem exists, GPs were more able to correctly name the common emotional disorder than the common behavioural disorder.

This study suggests that GPs may have a tendency to over-pathologise developmentally appropriate externalising behaviour. One of the vignettes displaying a symptom free child, displaying a normal level of externalising behaviour, was pathologised by 42% of GPs in this study. This is comparable to validation sample of Trainee Clinical Psychologists in which one third of the sample thought that the child described in this vignette had a problem, and to the sample of teachers reported on by Loades and Mastroyannopoulou (2010), where almost one third of the sample thought that the child described had a problem. It is possible that professionals tend to pathologise normal childhood externalising behaviour, mistakenly attributing normal, developmentally appropriate 'defiant' behaviour to underlying psychopathology. As GPs are a gateway to accessing specialist mental health services, this

could result in excessive referrals, some of which are not appropriate or necessary. It may therefore be helpful for professionals, including GPs, to have further training on normal child development. Furthermore, it may also be helpful for parents to have access to parenting courses to help them to manage developmentally appropriate, albeit challenging, behaviour in the primary school years. However, it may be that this vignette has design flaws, resulting in this pattern of results, so future studies should seek to further explore this avenue.

Interestingly, GPs were more concerned about children presenting with the common behavioural disorder (ODD) as compared to the common emotional disorder (SAD). This pattern is similar to a comparable study of primary school teachers (Loades & Mastroiannopoulou, 2010). Children with anxiety disorders and depression are perceived, by parents, to be less burdensome than children with behavioural disorders (Farmer, Burns, Phillips, Angold, & Costello, 2003), which may influence GPs response. Uncertainty is known to be related to anxiety (Hirsh, Mar, & Peterson, 2012), and therefore, it may be that GPs being better able to name the emotional disorder and thus make sense of it decreased their relative degree of concern for the child. The discrepancy in the degree of concern may also relate to the more disruptive impact of externalising behaviours versus internalising behaviours.

For both the behavioural (ODD) and emotional (SAD) presentations, GPs were significantly more concerned when the child in the vignette was presented as a boy than when the child was a girl. Previous studies (Dowdney et al., 1999; Wolpert & Fredman, 1996; Zwaanswijk, van der Ende, et al., 2005) had shown contradictory findings about the child's gender; thus the current study adds to the existing literature, further indicating that GPs do respond differently according to the child's gender.

We found no significant difference in whether GPs thought professional help was indicated for a child with clinical and subclinical level symptoms of both SAD and ODD. Importantly, the majority indicated professional help was indicated in children presenting with clinical level symptoms.

The main strength of this study was that all GPs were presented with the same vignettes, enabling systematic control of factors such as symptom presentation, severity and gender, whereas previous research in more naturalistic settings may have been subject to biases as a result of uncontrollable factors. Nevertheless, vignettes have questionable ecological validity and may not reflect how a GP would respond to an actual child in surgery (Lucas, Collins, & Langdon, 2009). Thus, a limitation to the study design is the use of written vignettes as compared to other resources, which may have better ecological validity, such as video vignettes. The use of video vignettes with situational based judgement tests has been shown to have greater reliability when assessing interpersonal relationships (Lievens & Sackett, 2006). Although personal cues and additional background information is not available in written vignettes as it would be in real life consultations (or to some extent, in video vignettes), written vignettes to describe patients with presentations of differing severity have been shown to have acceptable validity and reliability in healthcare research (Ross, Moffat, McConnachie, Gordon, & Wilson, 1999). The advantage of written vignettes is their ease of administration with limited resources required (Hughes & Huby, 2002).

In the both the ODD and SAD clinical level vignettes the participants endorsed a high degree of problem severity in the hypothetical child described in the vignette. The design of the vignettes may have contributed to this result with the degree of severity being too obvious. Nonetheless, the approach of using vignettes of differing severity with this methodology has

been utilised in previous studies (Loades et al. 2010, Day 2002). Also, given that the GP population has experience and knowledge of childhood mental health problems, we would also expect a very high percentage of GPs recognising clinical level symptoms. As not all GPs recognised that the child with clinical level symptoms, and there was a range of responses in terms of degree of concern, the varying level of severity appeared appropriate for the participants. Furthermore, the generalisability of this study's findings are limited by what is likely to be a low response rate, which cannot be precisely determined due to the methodology; however, a range of ages, years of experience and self-rated experience of child mental health was obtained and found to be varied and likely to be relatively representative of the wider population of GPs.

GPs play a vital role in detection and management of childhood mental health disorders as seen in the gateway provider model (Stiffman et al., 2004) and the help-seeking pathway model (Srebnik et al., 1996). Hence, further research, overcoming the limitations of the current study, into factors that facilitate a GP's detection of and response to common childhood mental health disorders is indicated.

In practice, these findings indicate that, in general, GPs do appear to recognise the symptoms of two common childhood mental health disorders, whilst reminding us that factors such as the gender of the child and the nature of the presenting symptoms can influence a GP's response. However, given that recognition accuracy and ability to correctly name the problem, was not 100% across the clinical vignettes, and given the tendency to pathologise developmentally appropriate externalising behaviour, more training for GPs on normative child development and psychopathology could be beneficial. Possible sources of training could include; teaching from a mental health professional in child services for GP registrars,

formalising pathways for the availability of advice and guidance from mental health services for GPs, and making the completion of a selection of electronic learning modules mandatory as part of GP revalidation (for example, the MindEd resources).

Appendix 1. Example vignette (clinical symptoms of ODD)

Billy is a nine year-old male living with his mother, father and three sisters. He is in Year 4. He is often disobedient at home and school. He never seems to feel guilty after misbehaving. He frequently destroys his things, and steals, and has run away from home at least six times. He regularly gets into fights and seems to only hang around children who get into trouble. He has physically attacked others twice his size. Billy argues with everyone. He doesn't get along with his sisters or any of the children in the neighbourhood. He is mean and cheats whenever he plays with them. He's always swearing, having temper tantrums, and threatening people. Billy frequently destroys his sister's belongings. He also breaks articles of furniture in the home and other things that don't belong to him. He's mostly irritable and stubborn.

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Conflicts of Interest

The authors have declared that they have no competing or potential conflicts of interest.

Contributorship

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